

REMARKS

This amendment is submitted as a full and complete response to the Office Action dated October 6, 2006. Reconsideration and allowance of the claims is requested. The claims have been amended in each instance to more distinctly claim the subject matter that the Applicants regard as the invention. An explanation of each amendment appears below.

Claims 1-16 and 31-34

Claims 1-16 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. In response, Applicant is amending claims 1-14 to comply with 35 U.S.C. § 101 and canceling claims 15-16. In particular, independent claim 1 has been amended to claim producing an image for synchronous output to multiple displays. The amended claims now recite tangible, and therefore, patentable subject matter as defined by 35 U.S.C. § 101. For these reasons, Applicant respectfully requests withdrawal of the 35 U.S.C. § 101 rejections of these claims.

Claims 1 and 2 are also rejected under 35 U.S.C. § 103(a) as being obvious in view of *Mukherjee et al.* (U.S. Patent No. 6,831,648) and *Lee et al.* (U.S. Patent No. 5,977,989). Claims 3-13 and 31-33 are rejected under 35 U.S.C. § 103(a) as being obvious in view of *Mukherjee, Lee, and Deering et al.* (U.S. Publication No. 2004/0012600 A1). Claim 14 is rejected under 35 U.S.C. § 103(a) as being obvious in view of *Mukherjee, Lee, and Crump et al.* (U.S. Patent No. 5,638,531). These rejections are respectfully traversed.

Applicant is amending claims 1 and 31 to include the limitations of (i) receiving an external synchronization signal, (ii) generating a synchronized timing signal, and (iii) transmitting the synchronized timing signal to a second graphics processing unit. These limitations are shown in Figures 2C, 4E and described in paragraphs [0063]-[0064] and [0087]. As described in the present application, a master graphics module 203 synchronizes a local clock signal provided by clock generator 215 to an external synchronization signal 207, producing a synchronized timing signal that is used within the master graphics module and output to a slave graphics module via data line 309.

Importantly, the slave graphics module receives the synchronized timing signal from the master graphics module rather than the external synchronization signal.

Mukherjee teaches a first graphics module (daughter card) that synchronizes a clock signal to an external synchronization signal (col. 3 lines 34-43). A first graphics module is connected to a second graphics module in a daisy chain “to provide signal amplification of an external clock signal generated in a master system.” Master system 107 provides the external clock signal that is received by the first graphics module and passed to the second graphics module through the daisy chain connection. Furthermore, *Mukherjee* teaches that the external clock signal from the synchronization signal generator is provided to each graphics module (col 5, lines 17-22). Nowhere does *Mukherjee* teach or suggest that the first graphics module transmits the synchronized clock signal to the second graphics module, as recited in amended claims 1 and 31.

The Examiner relies on *Lee* for the teaching of synchronizing signals running at different phases. Nowhere does *Lee* teach or suggest a first graphics module that generates and transmits a synchronized clock signal to a second graphics module, as recited in amended claims 1 and 31. *Deering* and *Crump* also fail to teach or suggest a first graphics module that generates and transmits a synchronized clock signal to a second graphics module.

As the foregoing illustrates, each of the cited references fails to teach or suggest the limitations of amended claims 1 and 31 discussed herein. This failure precludes any combination of *Mukherjee*, *Lee*, *Deering*, and *Crump* from rendering amended claims 1 and 31 obvious. For these reasons, Applicant submits that amended claims 1 and 31 are in condition for allowance and respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of these claim. Claims 2-6 and claims 32-33 are amended to conform with amended claims 1 and 31, respectively. The limitations of new claim 34 are shown in Figure 4F and described in paragraph [0088] of the present application. The limitations of new claim 35 are shown in Figure 2A and described in paragraph [0059] of the present application. Since claims 2-14 and new claim 34 depend from allowable claim 1 and claims 32-33 and new claim 35 depend from allowable claim 31, these claims also are in condition for allowance.

Claims 17-30

Claims 17-30 are rejected under 35 U.S.C. § 103(a) as being obvious in view of *Mukherjee, Lee, and Deering*. These rejections are respectfully traversed.

Claims 23 and 30 have been canceled. Claim 17 has been amended to claim a display system including multiple graphics modules that each independently synchronize with the other graphics modules to swap buffers. Similarly, claim 24 has been amended to claim a display system including multiple graphics modules that each independently synchronize with the other graphics modules to perform video block transfers. Each graphics module communicates that it is ready to swap buffers by setting a swap ready signal (as described in [0066]) to maintain synchronization between the graphics modules. Importantly, each graphics module determines that all of the graphics modules are synchronized in order to swap buffers or perform video block transfers.

In contrast, *Mukherjee* teaches a master system that determines when all of the graphics modules are ready to swap buffers. The master system instructs the slave systems to swap buffers by sending a swap command to the slave systems (col. 8, lines 56-63). Nowhere does *Mukherjee* teach or suggest that the slave systems are configured to perform the buffer swap without receiving the swap command from the master system.

Lee and *Deering* also fail to teach or suggest the limitations of amended claims 17 and 24, and this failure precludes any combination of *Mukherjee, Lee* and *Deering* from rendering amended claims 17 and 24 obvious. For these reasons, Applicant submits that amended claims 17 and 24 are in condition for allowance and respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of these claims. Since claims 18-22 and 25-29 depend from allowable claims 17 and 24, respectively, these claims also are in condition for allowance.

Conclusion

Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed. Applicants reserve the right to subsequently take up prosecution of the claims as originally filed in this application in a continuation, a continuation-in-part and/or a divisional application. If the Examiner has any questions, please contact the Applicants' undersigned representative at the number provided below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Stephanie Winner', is written over a horizontal line.

Stephanie Winner
Registration No. 52,371
PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd. Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Agent for Applicants